INDIANA DEPARTMENT OF TRANSPORTATION

INTER-DEPARTMENT COMMUNICATION

Standards Section – Room N642

Writer's Direct Line
232-6775

September 10, 2003

DESIGN MEMORANDUM No. 03-13
TECHNICAL ADVISORY

TO: **All Design, Operations, and District Personnel, and Consultants**

FROM: ***/s/ Anthony L. Uremovich***
Anthony L. Uremovich
Design Policy Engineer
Contracts and Construction Division

SUBJECT: **Guardrail End Treatment Type II Pay Limits**

COMPLEMENTS: ***Indiana Design Manual*** **Section 49-5.04(01) Item 4.d.**

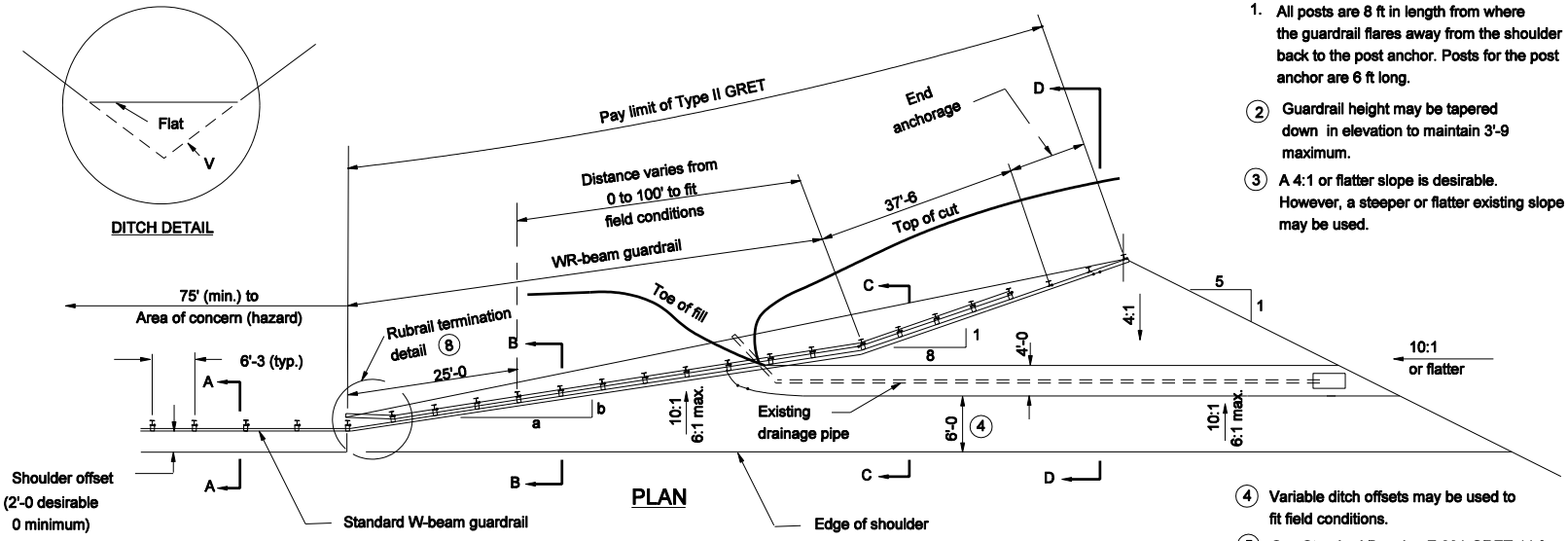
EFFECTIVE: **Immediately**

The total pay length of a guardrail end treatment type II includes both the WR-beam guardrail run and the guardrail height taper to end anchorage. This buried-in backslope guardrail end treatment is made up of the three components described in Section 49-5.04(01) Item 4.d., and shown on Recurring Plan Detail metric 601-R-462d and english E601-R-462d, both of which are attached hereto.

Attachment
alu

E 601-R-462d

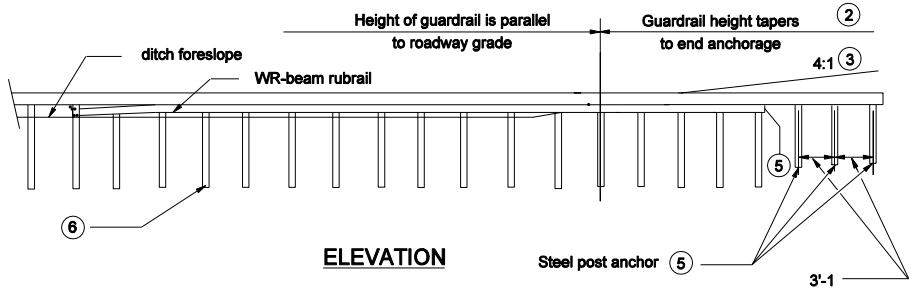
DITCH DETAIL



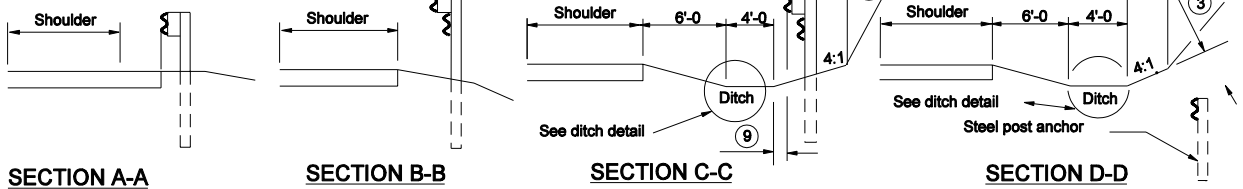
PLAN

Design speed mph	a:b
≥ 60	13:1
55	12:1
50	11:1
45 or less	10:1

a:b RATIO



ELEVATION



SECTION A-A

SECTION B-B (WITH RUBRAIL)

SECTION C-C (WITH RUBRAIL)

SECTION D-D

NOTES:

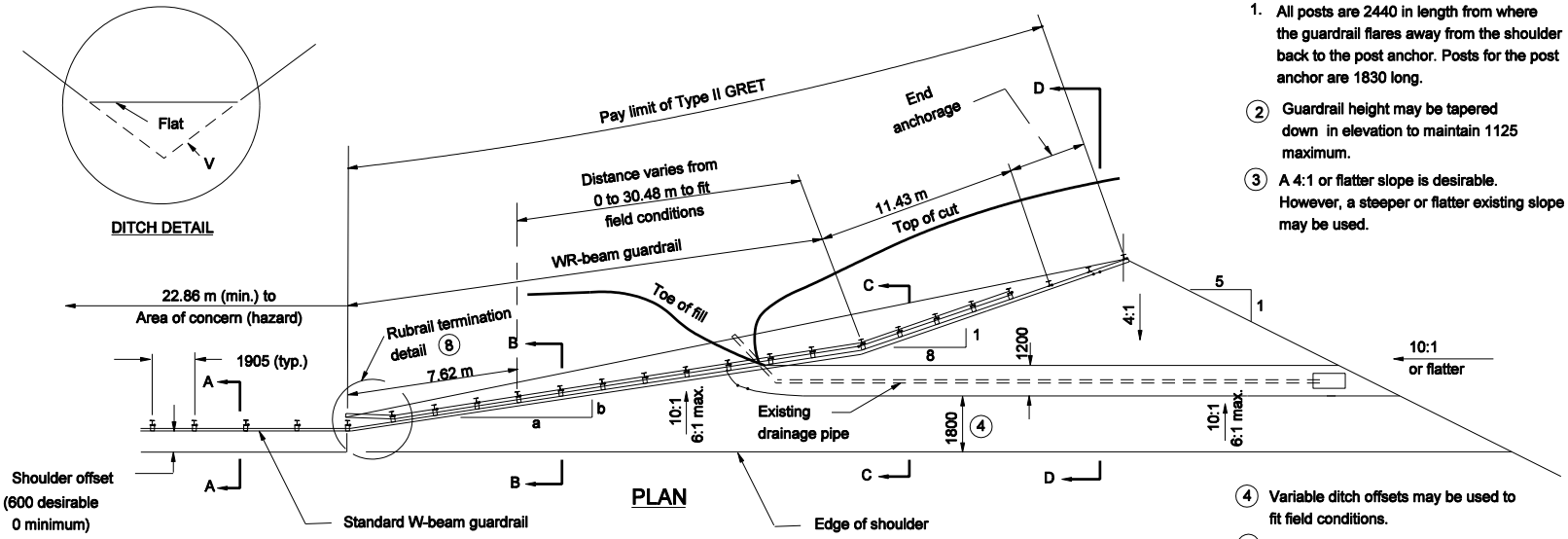
1. All posts are 8 ft in length from where the guardrail flares away from the shoulder back to the post anchor. Posts for the post anchor are 6 ft long.
2. Guardrail height may be tapered down in elevation to maintain 3'-9 maximum.
3. A 4:1 or flatter slope is desirable. However, a steeper or flatter existing slope may be used.
4. Variable ditch offsets may be used to fit field conditions.
5. See Standard Drawing E 601-GRET-11 for rail attachment details.
6. See Standard Drawing E 601-WBGA-06 for steel post and wood block details.
7. Ditch cross section profile should be same as upstream ditch cross section profile and have same or greater hydraulic capacity.
8. See Standard Drawing E 601-WBGA-06 for detail.
9. Posts shall be installed offset from the required ditch cross section to maintain ditch's hydraulic capacity.

INDIANA DEPARTMENT OF TRANSPORTATION

GUARDRAIL END TREATMENT
TYPE II

601-R-462d

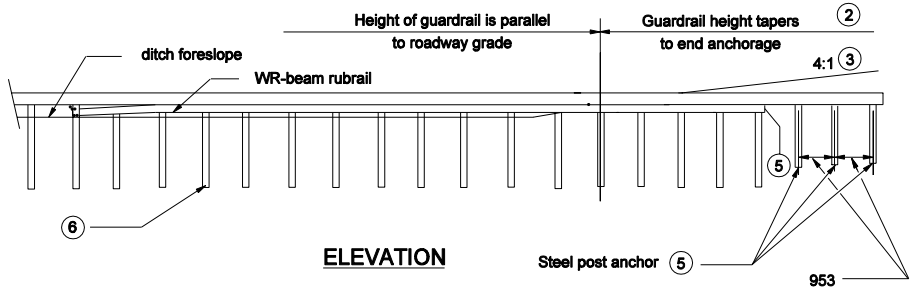
DITCH DETAIL



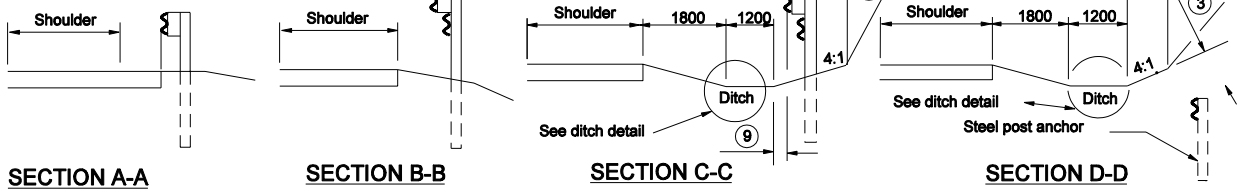
PLAN

Design speed km/h	a:b
≥ 100	13:1
90	12:1
80	11:1
70 or less	10:1

a:b RATIO



ELEVATION



SECTION A-A

SECTION B-B (WITH RUBRAIL)

SECTION C-C (WITH RUBRAIL)

SECTION D-D

NOTES:

1. All posts are 2440 in length from where the guardrail flares away from the shoulder back to the post anchor. Posts for the post anchor are 1830 long.
2. Guardrail height may be tapered down in elevation to maintain 1125 maximum.
3. A 4:1 or flatter slope is desirable. However, a steeper or flatter existing slope may be used.
4. Variable ditch offsets may be used to fit field conditions.
5. See Standard Drawing 601-GRET-11 for rail attachment details.
6. See Standard Drawing 601-WBGA-06 for steel post and wood block details.
7. Ditch cross section profile should be same as upstream ditch cross section profile and have same or greater hydraulic capacity.
8. See Standard Drawing 601-WBGA-06 for detail.
9. Posts shall be installed offset from the required ditch cross section to maintain ditch's hydraulic capacity.

All Dimension are in mm unless otherwise specfied

INDIANA DEPARTMENT OF TRANSPORTATION

GUARDRAIL END TREATMENT TYPE II